NPIC/P&DS/D/6-846

16 March 1966

MEMORANDUM FOR THE RECORD

SUBJECT: Sepcifications for Modulated Light Film Viewer

25X1 REFERENCES: a. [redacted] proposal No. 64034-B issued 23 December 1964.

25X1 b. [redacted] Minutes of presentation regarding subject viewer on 6 January 1966.

25X1 c. [redacted] Attachment A, Specifications for Modulated Light Viewing Table, to [redacted] letter re subject viewer dated 1 March 1966 25X1

25X1 1. [redacted] should be requested to resubmit a proposal citing the specifications appearing in references (a), (b), and (c) as being applicable unless specifically excepted in the proposal.

2. The associated cost proposal should be based on the principle that the government will not be obligated beyond the original contract unless all the specifications in the new technical proposal are met. Cost should be from FY-65 funds.

3. In addition to the specifications cited in references (a), (b) and (c) specification statements to the following effects should be added:

a. Contrast Compression, 30:1.

This should be established by a suitable test with the feed back system on during measurement of both the attenuated and the unattenuated illumination. The system should be shown to be capable of the 30:1 compression ratio when highlight illumination is 6 F.L. - the limiting effect of phosphor persistence should be defined. This performance and testing procedure should be defined for direct viewing with the

diffuser in place with 9 1/2" X 12", 9" X 9" and 3 1/2" X 4 1/2" raster sizes and for 2" X 2" raster size when viewed through the microscope without the diffuser. In all cases this performance should be defined relative to the maximum and minimum brightness of the source and the absence of visible flicker or noise. The relation of ambient illumination (both flourescent and incandescent) should be defined.

b. Box Scan. The previously demonstrated box scan raster has a very objectionable non-uniformity at the edges (extra brightness). This should be eliminated. At any rate the limits of this non-uniformity should be defined.

c. Spot Size Without Diffuser.

The spot size range (as a function of defocus control) at 1000 F.L. brightness at the phosphor should be defined.

d. Spot Size with Diffuser.

The spot size range with a suitable diffuser in place should be defined. The spot size should be defined at the surface of the diffuser.

e. Diffuser.

The diffuser should be defined so that it is clear that the mask formed by the attenuated illumination with the diffuser in place is in contact with the image on the film and that no spurious mask at the phosphor level is visible. All data regarding viewer performance with the diffuser in place should refer to this type of diffuser.

f. Noise, 30:1.

Contrast compresseion woth the unattenuated illumination at 100 F. L. there should be no visible flicker or noise whether viewing directly with the diffuser in place or through the microscope without the diffuser.

g. Microscope.

The mechanical support and motion characteristics of the microscope should be defined. This should include force vector variation limits as a function of microsope position and direction of travel and at representative tilt positions of the light surface. The rest position of the microscope and pantograph when not in use should be defined.

h. X-ray Glass Lift Control.

Should describe operation.

i. CRT Tube Life.

The tube life guarantee should be defined, including brightness fall off per hour 1000 F.L.

j. CRT Improvements.

The level of effort toward attaining a brighter rasler and better attenuation preformance should be defined.

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k. [redacted] Workmanship Standards.

Reference item 1. page 12 of the proposals. All aspects of the viewer should be related to this statement.

l. Control Knobs.

Define the inclusion of touch identifiable control knobs.

m. Cost/Performance.

The government is not prepared to consider costs higher than those in reference (c). [redacted] should indicate relations of performance criteria and cost if there is difficulty in meeting this goal. The cost relationship of the second viewer should be defined.

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n. Schedule.

A delivery schedule should be provided.

o. Percentage of Transmission/Intensity Transmission Performance Graphs. These graphs should be prepared for 300 F.L. and 1000 F.L. maximum illumination levels for both direct viewing with diffuser and microscope viewing without diffuser. The graphs should be valid performance standards to within 10 percent of actual performance demonstrated down to 1 percent transmission. Logarithmic scales should be present on both axes.